

Dividing Fractions by Fractions

Dividing by a fraction is the same as multiplying by its reciprocal.

For example, $\frac{3}{5} \div \frac{2}{3}$ is the same as $\frac{3}{5} \times \frac{3}{2}$.

Example

Divide: $2\frac{4}{5} \div \frac{3}{4}$.

Write $2\frac{4}{5}$ as an improper fraction.

Multiply by the reciprocal of $\frac{3}{4}$.

Simplify.

So, $2\frac{4}{5} \div \frac{3}{4} = 3\frac{11}{15}$.

$$\begin{array}{rcl}
 2\frac{4}{5} \div \frac{3}{4} & = & \frac{14}{5} \times \frac{4}{3} \\
 & = & \frac{56}{15} \\
 & = & 3\frac{11}{15}
 \end{array}$$

Try It

a. Divide: $\frac{1}{2} \div \frac{4}{5}$.

Reciprocal

Multiply by the reciprocal of $\frac{4}{5}$. _____ \times _____ = _____

b. Divide: $\frac{3}{8} \div 3$.

Write the divisor as an improper fraction. _____

Reciprocal

Multiply by the reciprocal of the divisor. _____ \times _____ = _____

= _____

c. Divide: $3\frac{9}{10} \div \frac{2}{3}$.

Write the mixed number as an improper fraction. _____

Write the reciprocal of the divisor. _____

Multiply. _____ \times _____ = _____

Divide. Remember to simplify if necessary.

d. $\frac{7}{8} \div \frac{2}{3}$ _____

e. $\frac{2}{5} \div \frac{3}{4}$ _____

f. $\frac{4}{7} \div 2$ _____

g. $3\frac{1}{3} \div \frac{4}{5}$ _____

h. $2\frac{3}{8} \div \frac{1}{10}$ _____

i. $15 \div 2\frac{1}{2}$ _____

j. $4\frac{1}{5} \div \frac{7}{8}$ _____

k. $1\frac{3}{4} \div 1\frac{2}{5}$ _____